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IEEE JNL IEEE Journal or Magazine

IEE JNL IEE Journal or Magazine

IEEE CNF IEEE Conference Proceeding

IEE CNF IEE Conference Proceeding

IEEE STD IEEE Standard

1. **High-speed hardware implementations of the KASUMI block cipher**
Kitsos, P.; Galanis, M.D.; Koufopavlou, O.;
[Circuits and Systems, 2004. ISCAS '04. Proceedings of the 2004 International Volume 2, 23-26 May 2004 Page\(s\):II - 549-52 Vol.2](#)
[AbstractPlus](#) | Full Text: [PDF\(258 KB\)](#) IEEE CNF
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2. **A methodology for dynamic power consumption estimation using VHDL**
Alcantara, J.M.S.; Vieira, A.C.C.; Galvez-Durand, F.; Alves, V.C.;
[Integrated Circuits and Systems Design, 2002. Proceedings. 15th Symposium 9-14 Sept. 2002 Page\(s\):149 - 154](#)
Digital Object Identifier 10.1109/SBCCI.2002.1137651
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3. **Leveraging the Multiprocessing Capabilities of Modern Network Processors for Cryptographic Acceleration**
Gaubatz, G.; Sunar, B.;
[Network Computing and Applications, Fourth IEEE International Symposium on 27-29 July 2005 Page\(s\):235 - 238](#)
Digital Object Identifier 10.1109/NCA.2005.28
[AbstractPlus](#) | Full Text: [PDF\(200 KB\)](#) IEEE CNF
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4. **ASC: a stream compiler for computing with FPGAs**
Mencer, O.;
[Computer-Aided Design of Integrated Circuits and Systems, IEEE Transaction on Volume 25, Issue 9, Sept. 2006 Page\(s\):1603 - 1617](#)
Digital Object Identifier 10.1109/TCAD.2005.857377
[AbstractPlus](#) | Full Text: [PDF\(360 KB\)](#) IEEE JNL
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5. **High performance encryption cores for 3G networks**
Balderas-Contreras, T.; Cumpliclo, R.;
[Design Automation Conference, 2005. Proceedings. 42nd 13-17 June 2005 Page\(s\):240 - 243](#)
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6. Design and implementation of Rijndael algorithm for GSM encryption
Soyjaudah, K.M.S.; Hosany, M.A.; Jamalodeen, A.;
Mobile Future, 2004 and the Symposium on Trends in Communications. Symp IST Workshop on
24-26 Oct. 2004 Page(s):106 - 109
Digital Object Identifier 10.1109/TIC.2004.1409510
[AbstractPlus](#) | Full Text: [PDF\(660 KB\)](#) IEEE CNF
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7. An end-to-end hardware approach security for the GPRS
Kitsos, P.; Sklavos, N.; Koufopavlou, O.;
Electrotechnical Conference, 2004. MELECON 2004. Proceedings of the 12th Mediterranean
Volume 2, 2004 Page(s):791 - 794 Vol.2
Digital Object Identifier 10.1109/MELCON.2004.1347050
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8. Design space exploration with A Stream Compiler
Mencer, O.; Pearce, D.J.; Howes, L.W.; Luk, W.;
Field-Programmable Technology (FPT), 2003. Proceedings. 2003 IEEE International Conference on
15-17 Dec. 2003 Page(s):270 - 277
[AbstractPlus](#) | Full Text: [PDF\(532 KB\)](#) IEEE CNF
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9. Design and implementation of a private and public key crypto processor application to a security system
Ho Won Kim; Sunggu Lee;
Consumer Electronics, IEEE Transactions on
Volume 50, Issue 1, Feb 2004 Page(s):214 - 224
Digital Object Identifier 10.1109/TCE.2004.1277865
[AbstractPlus](#) | Full Text: [PDF\(1093 KB\)](#) IEEE JNL
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10. An efficient reuse-based approach to implement the 3GPP KASUMI block
Balderas-Contreras, T.; Cumplido-Parra, R.A.;
Electrical and Electronics Engineering, 2004. (ICEEE). 1st International Conference on
24-27 June 2004 Page(s):113 - 118
Digital Object Identifier 10.1109/ICEEE.2004.1433860
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1 [Survey and benchmark of block ciphers for wireless sensor networks](#)

 Yee Wei Law, Jeroen Doumen, Pieter Hartel
 February 2006 **ACM Transactions on Sensor Networks (TOSN)**, Volume 2 Issue 1

Publisher: ACM Press

Full text available:  [pdf\(354.39 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Cryptographic algorithms play an important role in the security architecture of wireless sensor networks (WSNs). Choosing the most storage- and energy-efficient block cipher is essential, due to the facts that these networks are meant to operate without human intervention for a long period of time with little energy supply, and that available storage is scarce on these sensor nodes. However, to our knowledge, no systematic work has been done in this area so far. We construct an evaluation framew ...

Keywords: Sensor networks, block ciphers, cryptography, energy efficiency

2 [Architectures for cryptography and security applications: High performance](#)

 encryption cores for 3G networks
 Tomás Balderas-Contreras, René Cumplido
 June 2005 **Proceedings of the 42nd annual conference on Design automation**

Publisher: ACM Press

Full text available:  [pdf\(869.33 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

This paper presents two novel and high performance hardware architectures, implemented in FPGA technology, for the KASUMI block cipher; this algorithm lies at the core of the confidentiality and integrity algorithms defined for the Universal Mobile Telecommunication System (UMTS) standard. The first proposal is a pipelined design and the second implements an iterative approach. The throughput for these architectures turn out to be higher than the throughput achieved by other proposals.

Keywords: 3G, FPGA, KASUMI, UMTS security architecture

3 [Special session on security on SoC: Securing wireless data: system architecture challenges](#)

 Srivaths Ravi, Anand Raghunathan, Nachiketh Potlapally
 October 2002 **Proceedings of the 15th international symposium on System Synthesis**

Publisher: ACM Press

Full text available:  pdf(172.35 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Security is critical to a wide range of current and future wireless data applications and services. This paper highlights the challenges posed by the need for security during system architecture design for wireless handsets, and provides an overview of emerging techniques to address them. We focus on the computational requirements for securing wireless data transactions, revealing a gap between these requirements and the trends in processing capabilities of embedded processors used in wireless h ...

Keywords: 3DES, AES, DES, IPSec, RSA, SSL, WTLS, decryption, design methodology, embedded system, encryption, handset, mobile computing, performance, platform, security, security processing, system architecture, wireless communications

4 Taming the IXP network processor 

 Lal George, Matthias Blume

May 2003 **ACM SIGPLAN Notices , Proceedings of the ACM SIGPLAN 2003 conference on Programming language design and implementation PLDI '03**, Volume 38

Issue 5

Publisher: ACM Press

Full text available:  pdf(159.27 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

We compile Nova, a new language designed for writing network processing applications, using a back end based on integer-linear programming (ILP) for register allocation, optimal bank assignment, and spills. The compiler's optimizer employs CPS as its intermediate representation; some of the invariants that this IR guarantees are essential for the formulation of a practical ILP model. Appel and George used a similar ILP-based technique for the IA32 to decide which variables reside in registers but ...

Keywords: Intel IXA, bank assignment, code generation, integer linear programming, network processors, programming languages, register allocation

5 Dynamic Platform Management for Configurable Platform-Based System-on-Chips 

Krishna Sekar, Kanishka Lahiri, Sujit Dey

November 2003 **Proceedings of the 2003 IEEE/ACM international conference on Computer-aided design**

Publisher: IEEE Computer Society

Full text available:  pdf(330.64 KB)

Additional Information: [full citation](#), [abstract](#), [index terms](#)

General-purpose System-on-Chip platforms consisting of configurable components are emerging as an attractive alternative to traditional, customized solutions (e.g., ASICs, custom SoCs), owing to their flexibility, time-to-market advantage, and low engineering costs. However, the adoption of such platforms in many high-volume markets (e.g., wireless handhelds) is limited by concerns about their performance and energy-efficiency. This paper addresses the problem of enabling the use of configurable platforms ...

6 Document exchange model for augmenting added value of B2B collaboration 

 Koichi Hayashi, Riichiro Mizoguchi

September 2003 **Proceedings of the 5th international conference on Electronic commerce ICEC '03**

Publisher: ACM Press

Full text available:  pdf(148.98 KB)

Additional Information: [full citation](#), [abstract](#), [references](#)

In this paper we present a B2B integration project, which aims to augment the added value of services instead of improving efficiency by automating processes. This paper introduces the VAalue Layered docUment Exchange (VALUE) model, which is a novel collaboration model adopted for this project. The key feature of the VALUE model is that partners exchange XML documents that are updated by adding elements for process information, such as the acceptance or rejection of a proposal, to received docume ...

Keywords: B2B, ebXML, supply chain management

7 A Logic Level Design Methodology for a Secure DPA Resistant ASIC or FPGA Implementation



Kris Tiri, Ingrid Verbauwhede

February 2004 **Proceedings of the conference on Design, automation and test in Europe - Volume 1**

Publisher: IEEE Computer Society

Full text available: [pdf\(143.96 KB\)](#) Additional Information: [full citation](#), [abstract](#), [citations](#), [index terms](#)

This paper describes a novel design methodology to implement a secure DPA resistant crypto processor. The methodology is suitable for integration in a common automated standard cell ASIC or FPGA design flow. The technique combines standard building blocks to make new compound standard cells, which have a close to constant power consumption. Experimental results indicate a 50 times reduction in the power consumption fluctuations.

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